

REMARKS

This responds to the Final Office Action dated June 10, 2009. Claims 56, 58, 59, 82, and 83 are amended, no claims are been cancelled, and claims 98-100 are added. As a result, claims 50, 56-59, 72, 73, 82, 83, 93, 94, 96, and 98-100 are now pending in this application.

Allowable Subject Matter

The Examiner has allowed claims 50, 93, 94 and 96. The Examiner has objected to claims 82 and 83 and noted that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

§103 Rejection of the Claims

The Examiner rejected claims 56-59, 72, and 73 under 35 USC §103(a) as being anticipated by U.S. Patent No. 4,807,031 to Broughton et al. (Broughton) in view of Publication J.D. Neal, Hardware Level VGA and SVGA Video Programming Information Page (Neal).

Independent claim 56 as amended recites, in part, “seeking and synchronizing to a vertical retrace period of the video signal on the hand-held electronic device; and determining, on the hand-held electronic device, whether auxiliary data is present in the frame by performing a field comparison on a plurality of segments of a first field and a plurality of corresponding segments of a second field of the frame based on the seeking and synchronizing to the vertical retrace period, wherein at least one second corresponding field segment in the second field that corresponds to a first modulated field segment is not modulated, at least one first corresponding field segment in the first field that corresponds to a second modulated field segment is not modulated, and a plurality of pixels in a particular corresponding field segment of a particular field of the frame that correspond to the plurality of pixels in a particular modulated field segment of the other field of the frame have a different pixel value.” Applicants cannot find these claim elements in the references. In particular, Broughton and Neal, alone or in any combination, fail to teach or suggest the above claim limitations or otherwise render the claim as being obvious.

Broughton relates to a method and apparatus for in-band, video broadcasting of commands to interactive devices.¹ Control data is encoded by subliminal modulation within “a selected sequence of video image fields.”² The modulated video image fields “each have alternately, proportionally raised and lowered luminance horizontal scan lines”.³ Neal relates to “configuration of the VGA’s CRTC registers which control the framing and timing of video signals sent to the display device, usually a monitor.”⁴

Neal fails to teach or suggest seeking and synchronizing to a vertical retrace period of the video signal on the hand-held electronic device. Rather, Neal describes “certain operations that should be performed during certain periods of the display cycle to minimize visual artifacts”.⁵ The operations described in Neal “[provide] the programmer with a means to determine if the video hardware is currently refreshing the active display or it is currently outputting blanking.”⁶ Such operations are used for determining the status of a VGA and when to display graphics (e.g., during animation), and not to seek and synchronize to the vertical retrace period of the video signal on a hand-held electronic device as claimed.⁷ The proposed combination with Broughton fails to overcome the defect.

Broughton fails to teach or suggest determining, on the hand-held electronic device, whether auxiliary data is present in the frame by performing a field comparison on a plurality of segments of a first field and a plurality of corresponding segments of a second field of the frame. In Broughton, a video signal is modulated “at frequencies that are related to multiples and submultiples of the horizontal line rate, to produce a subtle video subcarrier.”⁸ The video signal is received and analyzed by receiver/transmitter electronics.⁹ The electronics “analyze[s] the [] signal for energy within a range around 7.867 kHz, ..., the frequency at which luminance is modulated in the viewing area 14c of the television screen.”¹⁰ “In the presence of luminance

¹ See Abstract.

² See Abstract.

³ See Abstract.

⁴ See Page 1-Introduction.

⁵ See Page 3 – Monitor Timing.

⁶ See *id.*

⁷ See Title and Page 3 – Monitor Timing.

⁸ See Col. 2, lines 63-65.

⁹ See Col. 7, lines 57-60 and FIG. 3.

¹⁰ See Col. 7, line 67 – Col. 8, line 4.

modulation within this range of frequencies, the output of receiver electronics 56 represents a binary 1 or 0, indicating the presence and sense of control data intended for ancillary use ...”¹¹

In contrast to the assertions by the Examiner, level comparator 66 does not perform a field comparison as claimed. Rather, “level comparator 66 [] compares the smoothed output of rectifier 64 with a predefined reference voltage to determine whether the 7.867 kHz energy is, in fact, encoded data, rather than incidental, video noise.”¹²

The Examiner asserts that “it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Broughton's system with the teaching of Neal about seeking and synchronizing to a vertical retrace period which is useful for determining the end of a display period, so to allow entertainment devices to display animation based on the received auxiliary data correctly and to update the display every period.” The Applicants respectfully traverse.

A person of ordinary skill in the art would not modify Broughton to include seeking and synchronizing to a vertical retrace period because the detection technology of Broughton is asynchronous.¹³ Having asynchronous technology for detection, a person of ordinary skill in the art would not be motivated to add in an additional step of seeking and synchronizing to a vertical retrace period to make the detection technology synchronous.

Moreover, neither Broughton nor Neal, along or in any combination, teach or suggest having at least one second corresponding field segment in the second field that corresponds to a first modulated field segment is not modulated, at least one first corresponding field segment in the first field that corresponds to a second modulated field segment is not modulated, and a plurality of pixels in a particular corresponding field segment of a particular field of the frame that correspond to the plurality of pixels in a particular modulated field segment of the other field of the frame have a different pixel value.

Based on the foregoing, Broughton and Neal, alone or in any combination, do not teach or suggest every claim limitation of independent claim 56 or otherwise render the claim as being obvious over the cited art. Therefore, Applicants respectfully request the withdrawal of the §103(a) of his rejection and allowance of independent claim 56.

¹¹ See Col. 8, lines 4-9.

¹² See Col. 8, lines 17-21.

¹³ See claim 4, Col. 9, lines 57-66, and Col. 16, lines 29-42.
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Applicants submit that a dependent claim incorporates each of the claim elements of the independent claim from which it properly depends, and more. Applicants asserts for the reasons stated above, that Broughton and Neal alone or in any combination do not teach or suggest all of the claim elements of dependent claims 57-59, 72, and 73 or otherwise render the claims as being obvious over the cited art. Accordingly, the Applicants respectfully request that the Examiner withdraw the rejection of claims 57-59, 72, and 73 and indicate the allowance thereof.

New claims 98-100 have been added. They are believed to distinguish from Broughton and Neal for at least the same reasons as claims 50 and 56. No new matter has been added.¹⁴

CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' representative at (314) 622-6605 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-1662.

Respectfully submitted,

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Dated

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¹⁴ See at least Page 12, lines 9-11, Page 27, line 7-Page 28, line 20, and Page 35, lines 5-21.
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